

## AMENDED ABSTRACT

### SELF-ALIGNED VOID FILLING FOR MUSHROOMED PLATING

~~A first embodiment of the mushroom plating process of~~ The present invention includes  
starts with an overlated component which includes an enlarged mushroom head having outer  
5 portions which overhang a hard baked resist layer. ~~The next step in the first process embodiment~~  
~~is a heating step in which the resist layer is hard baked. Thereafter, using a dry etch process,~~  
~~such as a reactive ion etch (RIE) process, the hard baked resist layer is removed in all areas~~  
~~except beneath the overhang of the mushroom head. The area beneath the overhang thereby~~  
~~remains filled with hard baked resist. Thereafter, the~~ The device is ultimately encapsulated such  
10 that no voids and/or redeposition problems exist under the overhang due to the presence of the  
hard baked resist. ~~In an alternative process embodiment of the present invention the dry etch~~  
~~process is conducted first upon the resist layer, such that the resist layer is removed in all areas~~  
~~except under the overhang. Thereafter, the device is baked, such that hard baked resist remains~~  
~~beneath the overhang. Ultimately, the device is encapsulated and no voids or redeposition~~  
15 ~~problems exist beneath the overhang due to the presence of the hard baked resist. Devices that~~  
~~are manufactured utilizing the processes of the present invention are also included within the~~  
~~invention.~~ While not intended to be limiting in any manner, ~~one such~~ a device of the present  
invention is a thin film magnetic head wherein the yoke portion of a magnetic pole is formed  
utilizing the mushroom plating techniques of the present invention. Another mushroom plated  
20 component found in many devices is a mushroom plated electrical interconnecting stud that is  
formed utilizing the process steps of the present invention.